Sept. 28, 1971 Y. Y. KIMEL 3,608,343

KEY RETAINER

Filed June 22, 1970

Fig. 1.

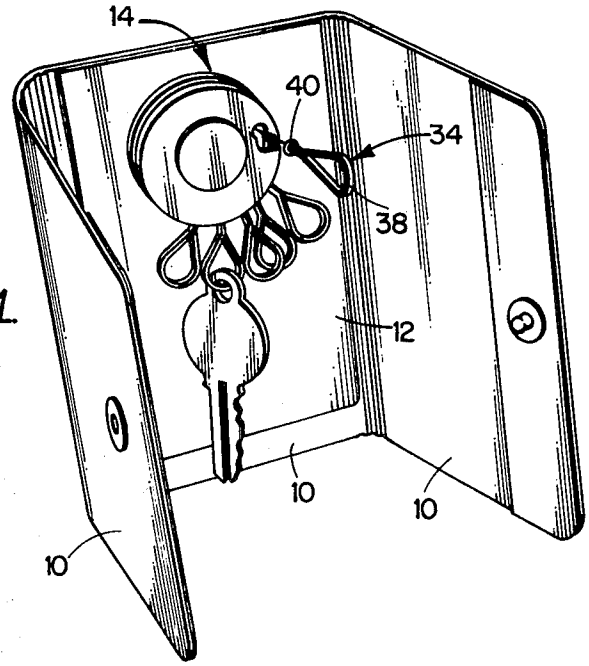
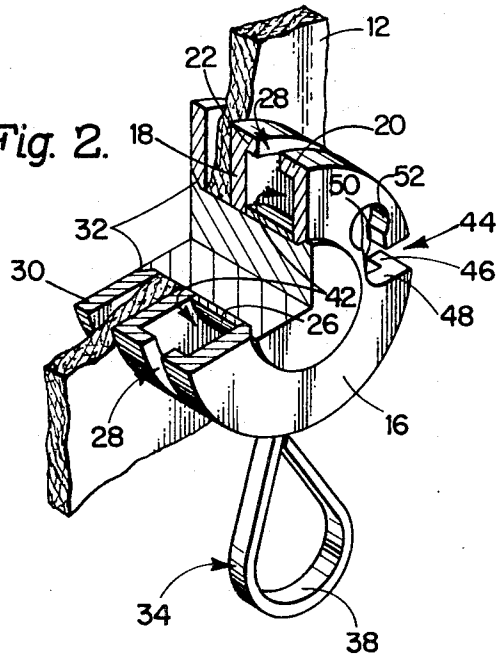


Fig. 2.



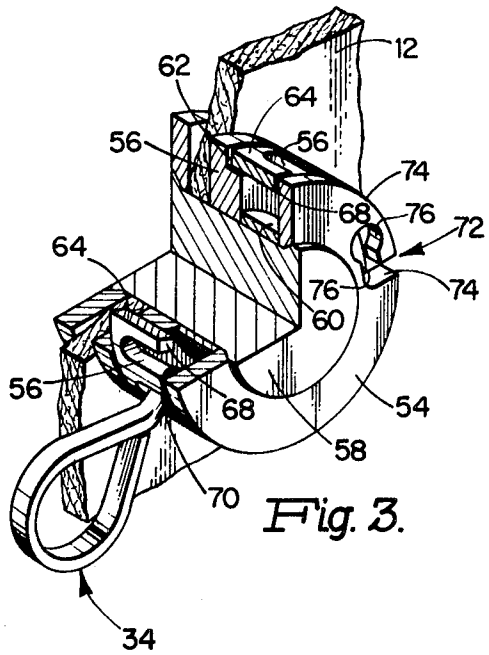


Fig. 3.

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KEY RETAINER

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U.S. Cl. 70—456R 9 Claims

ABSTRACT OF THE DISCLOSURE

A key retainer having a circular hub with a peripheral sidewall. The sidewall includes one or more slots which receive and retain one or more key hooks. The sidewall and slots are arranged so that the key hooks may be positioned at any location about the periphery of the hub in carousel fashion. The hooks may be attached and detached by simple manipulation of the hooks through a specially formed slot in the hub. In one embodiment of the device, the hooks are slideable along and within an annular slot in the sidewall. In another embodiment of the device, the sidewall itself is rotatable about the hub.

BACKGROUND OF THE INVENTION

This invention relates to key retainers and, more particularly, to retainers of the type used in pocket key cases in which the keys and key hooks may be detached simply from the retainer when desired. The invention is a significant improvement over prior devices which employ special locking mechanisms having complex moving parts or spring elements in order to grip firmly and retain the key hooks in place. My invention is effective to retain the hooks, during normal use, without the use of special movable locking devices. Additionally, the structure of the key retainer facilitates isolation of a single key on the retainer without detaching it from the retainer by mounting the hooks for rotation in carousel fashion about the retainer itself.

SUMMARY OF THE INVENTION

In brief, my invention includes a central hub member of generally flat, disc-like configuration having a peripheral sidewall. The interior of the hub is hollow to define a chamber within the sidewall. A slot is formed along the sidewall. The key hook, which includes a shank portion and an enlarged knob portion at one end of the shank is retained by the hub with the knob disposed in the chamber and the shank projecting through the narrow slot in the sidewall. The key hook may be removed by manipulating it through a removal slot formed in the hub which is in communication with the slot in the sidewall and which defines a multi-legged path terminating in an enlarged opening which permits the knob to be removed. The key hooks may be positioned at various locations about the hub by sliding them along and through the slot in the sidewall.

In another embodiment of the invention, the sidewall includes an endless ring which is rotatably mounted about the hub. The ring includes a plurality of circumferentially spaced slots which receive the key hooks. The key hooks may be positioned about the hub by rotating the sidewall. The key hooks may be removed through a removal slot formed in a portion of the hub by aligning the selected

hook with a multi-legged removal slot formed in the hub having the enlarged removal opening at the other end of the slot.

Each embodiment of the invention may be attached to one side of a wall portion of a key case by providing a rigid backing member at the other side of the wall portion and then securing the hub and backing member together through the wall portion of the key case.

Each embodiment of the invention also includes a special multi-legged removal slot in which the various legs are disposed at angles to each other to reduce the likelihood of inadvertent separation of the key hooks from the device.

Among the primary objects of the invention is to provide an improved device for retaining, detachably, a plurality of keys which avoids the use of any cumbersome or awkward mechanically movable locking elements.

A further object of the invention is to provide a novel key retainer in which the keys are attached to a central hub and in which the keys may be rotated to various positions about the hub in carousel fashion.

DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the invention will be understood more fully from the following detailed description thereof with reference to the accompanying drawings wherein:

FIG. 1 is an illustration of a key case embodying the invention;

FIG. 2 is a partly broken away illustration of one embodiment of the invention; and

FIG. 3 is a partly broken away illustration of another embodiment of the invention.

DESRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 shows the invention as employed in a key case having walls **10** foldable into a compact, closed arrangement. The key case also may include a flap **12** for mounting the key retainer, indicated generally by the reference character **14** thereto.

FIG. 2 shows one embodiment of the key retainer. This embodiment includes a pair of spaced discs **16, 18** of generally circular configuration. Each disc has a peripheral flange **20, 22** respectively. The discs **16, 18** are secured together in spaced relation by a stud **24** which passes through a central hole formed in each of the discs and a spacer **26** which surrounds the stud **24** to space the discs **16, 18** so that their peripheral flanges **20, 22** are spaced to define the peripheral slot **28**. The stud **24** may be secured directly to the lower disc **18** or when the key retainer is attached to a key case as shown in FIG. 1, the lower end of the stud **24** is passed through a hole in the flap **12** and through a central hole in a backing member **30**. The bottom end of the stud **24** then is swagged into the countersunk portion **32** of the hole in the backing member **30**.

The embodiment shown is intended for use with a key hook **34** having a key retaining loop **38** at one end of the shank and an enlarged knob **40** at the other end of the shank. As shown, the knob **40** of the hook **34** is retained within the annular chamber **42** within the hub. The peripheral slot **28** is wide enough to permit the shank **36** to pass freely therethrough but to preclude passage of the enlarged knob **40**. Thus, the key hook **34** may be posi-

tioned at any location about the slot **28** while retaining the hook attached to the hub.

The key hooks **34** may be attached and detached from the hub by a specially formed removal slot, indicated generally by the reference character **44**. The removal slot is formed to define a plurality of legs **46**, **48**, and **50** in the disc **16**. The legs **48**, **50** of the slot are disposed at an angle to each other and lie in the same general plane as said plate or disc **16**. Thus, the key hook **34** may be removed by manipulating the shank **36** through the legs **46** and **48** and then at an angle through the leg **50**. The width of each slot leg is less than the dimensions of the knob **40** of the key hook **34** except for the very end of the slot leg **50** which includes an enlarged opening **52** through which the knob **40** may be passed. Thus, with this arrangement, the key hooks **34** may be removed by a simple yet definite manipulation. There is little chance of the key hook **34** working its way inadvertently through the multidirection removal slot **34** to the enlarged opening through which the knob **40** may be passed. Thus, the invention retains the keys effectively without, during normal use, the use of any awkward or cumbersome mechanically movable locking devices, springs or the like.

In the preferred embodiment, the legs **48**, **50** are disposed at substantially right angles to each other. It should be noted, however, that any angle may be employed which is sufficiently acute to minimize the likelihood of inadvertent advancement of the key hook shank through the slot toward the enlarged opening.

FIG. 3 shows another embodiment of my invention. In this embodiment, the hub is formed by a pair of spaced flat circular plates **54**, **56** which are secured together in spaced relation by the stud **58** and spacer **60**. One of the plates **56** has a marginal shoulder **62** formed about its periphery. A circular peripheral wall **64** is disposed between the spaced plates **54**, **56** and is retained within the shoulder **62** for rotation in relation to the other parts of the hub. The circular wall **64** has a plurality of openings or slots **66** formed therein in circumferentially spaced arrangement. Each of the slots **66** is open at the upper edge **68** of the sidewall **64**. In this embodiment, the shank of the key hook **34** extends through the slot **66** and is retained in place by cooperation of the slot **66** and the edge **70** of the upper plate **54**. The key hooks may be rotatably positioned about the hub by simply rotating the peripheral sidewall **64**.

The key hooks **34** may be attached or detached from the hub by a removal slot **72** formed in the upper plate **54**. The removal **72** has at least two legs **74**, **76** which are arranged at an angle to each other. One end of the removal slot **72** extends to the edge **74** of the upper plate **54**. The other end of the removal slot **72** has an enlarged opening **76** through which the knob **40** on the key hook **34** may be passed. As in the previous embodiment described above, the path through which the key hook **34** must be passed to separate the hook from the hub minimizes the likelihood of the key hook **34** becoming separated inadvertently. Similarly, the key hook is retained effectively without the use of any awkward mechanically moving locks or springs, etc. Additionally, this embodiment of the invention may be attached to a conventional key case in the same manner described above in the discussion of the earlier embodiment.

Although in the embodiment shown in FIG. 3, it is preferred to employ key hooks of the type described both having a shank and an enlarged knob which are engaged in a slot in the sidewall **64**, other types of key hooks may be employed and appropriate means may be provided for attaching the hooks to the rotatable sidewall **64**.

It should be understood that the foregoing description of the invention is intended merely to be illustrative thereof and that other embodiments and modifications may be apparent to those skilled in the art without departing from its spirit. For example, although the preferred embodiment is disclosed as including a hub of circular configuration, the hub may be formed in other geometric patterns if desired.

Having thus described my invention, what I desire to claim and secure by Letters Patent is:

1. A key retainer adapted to retain a plurality of hooks, said hooks including a shank and an enlarged knob at the end of said shank, said retainer comprising:

a pair of plates of substantially identical peripheral configurations;

means for securing said plates in registry with each other with at least the outer peripheral margins of said plates being disposed in spaced relation to each other to define an internal chamber;

said key retainer including sidewall means extending about the periphery of said plates, said sidewall means defining, in part, said internal chamber;

means forming at least one opening in said sidewall, said opening being dimensioned to receive the shank portion of said hooks but being smaller than the dimensions of said knob portions of said hooks whereby said knobs may be retained within said chamber with said shanks protruding outwardly through said opening in said sidewall; and

a removal slot formed in one of said plates, said removal slot having at least two legs in communication with each other, said legs being disposed in the same general plane as said plate and at an angle to each other, one of said legs being in communication with said opening in said peripheral wall and the other end of said slot terminating in said one plate, said slot being smaller in width than the dimensions of said knob except at the end of said slot within said plate which is enlarged to permit said knob of said hook to pass therethrough.

2. A key retainer as defined in claim **1**, further comprising:

at least one of said plates having a peripheral flange formed at the edge thereof, said flange extending toward the edge of the other of said plates, said edge of said flange being spaced from said edge of said other of said plates to define said shank-receptive slot.

3. A key retainer as defined in claim **2** wherein each of said plates has said flange formed thereabout.

4. A key retainer as defined in claim **1** further comprising:

means for securing said key retainer to one side of a sheet of material, said securing means including a flat backing member at the other side of said sheet of material, said fastener extending through said sheet material and being secured to said backing member.

5. A key retainer as defined in claim **1** wherein said means enabling said hooks to be positioned thereabout comprises:

said sidewall means being movably mounted to said key retainer for movement along the periphery of said key retainer.

6. A key retainer as defined in claim **5**, further comprising:

a pair of circular plates, at least one of said plates having a shoulder formed about its periphery; and

said sidewall being of circular configuration and being retained within the peripheral shoulder formed in said at least one of said plates.

7. A key retainer as defined in claim **6** wherein said at least one opening in said sidewall comprises at least one slot open at one edge of said sidewall adjacent to that of said plates in which said removal slot is formed, said removal slot being registrable with said slots in said sidewall.

8. A key retainer as defined in claim **7** further comprising:

said means for securing said plates together comprising a fastener in engagement with the central region of said plates.

9. A key retainer as defined in claim 8 further comprising means for securing said key retainer to one side of a sheet of material comprising:

a flat backing member at the other side of said sheet of material, said fastener extending through said sheet material and being secured to said backing member.

References Cited

UNITED STATES PATENTS

2,737,046	3/1956	Jancsics	70—457
3,181,321	5/1965	Gits	70—456R
3,257,696	6/1966	Miller	24—116
3,481,169	12/1969	Rossi	70—408

FOREIGN PATENTS

720,198	10/1965	Canada	70—456R

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